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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/075,021	02/12/2002	James J. Finley	1074D2	8098

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EXAMINER
PIZIALI, ANDREW T

ART UNIT	PAPER NUMBER
1775	7

DATE MAILED: 02/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AS7

Office Action Summary	Application No. 10/075,021	Applicant(s) FINLEY ET AL.	
	Examiner Andrew T Piziali	Art Unit 1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 December 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-52* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-52* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 38-42 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Specifically regarding claim 38, the specification does not speak of more than one metal oxide film on the metal film.

new issue

new issue

3. Claim 40 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The applicants claim that the metal oxide film has a density of 4 grams per cubic centimeter and a refractive index of 2.5, but the specification discloses that crystalline titanium oxide films have such properties (page 6, lines 1-19). The applicant is not enabled for a crystalline metal oxide film over an amorphous metal film.

new issue

4. Claims 50 and 52 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. While speaking of an amorphous metal oxide film over the amorphous

metal film (page 7, lines 17-26), the specification does not speak of a crystalline metal oxide film over the amorphous metal film.

5. Claim 51 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. While being enabling for a coated product comprising an underlying layer of amorphous metal and an overlying layer of amorphous metal oxide (page 7, lines 11-26) or a coated product comprising an underlying layer of metal oxide (formed by thermal oxidation) and an overlying layer of metal oxide (formed from sputtering in 50/50 oxygen/argon atmosphere) (page 10, lines 9-28), the applicants fail to provide enablement for a coated product comprising a crystalline metal oxide film and an overlying layer of metal oxide.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 21-52 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 5,110,662 to Depauw et al (hereinafter referred to as Depauw).

Regarding claims 21-52, Depauw discloses a multi-layer structure wherein an initial metal film may be sputter deposited on a substrate in an atmosphere containing an inert gas and a reactive gas (paragraph bridging columns 4 and 5). The substrate may receive subsequent deposits of oxide films (such as titanium oxide films) (column 8, lines 29-57)

resulting in a corrosion resistant article (column 3, lines 12-18). Depauw does not specifically mention that the initial metal film is amorphous, but Depauw does disclose that the metal may be deposited in a sub-oxide or even metallic state (paragraph bridging columns 4 and 5). Considering that the metal film may be deposited in sub-oxide or metallic state while being deposited in an oxygen containing atmosphere, it appears that the oxygen content is sufficient to effect the deposition in a substantially amorphous rather than crystalline state. Absent a showing of otherwise, it appears that the metal film of Depauw is amorphous in structure.

It is the examiner's position that the coated product of Depauw is identical to or only slightly different than the claimed coated product prepared by the method of the claims. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show obvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289 (Fed. Cir. 1983). Depauw either anticipated or strongly suggested the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Depauw.

Regarding claims 22-24, 32 and 40-44, Depauw discloses that the metal of the metal or metal oxide films may be titanium (column 8, lines 29-57).

Regarding claims 25-26, 39 and 46, Depauw discloses that the metal sub-oxide or metallic films may be deposited in the range of 25 to 450 A (column 8, lines 29-57).

Regarding claims 27-28, 31 and 43, Depauw discloses that the reactive gas may be oxygen (column 2, lines 56-63).

Regarding claims 29-30, 33 and 43, Depauw discloses that the inert gas may be argon (column 2, lines 56-63).

Regarding claims 32, 35, 40 and 43, Depauw discloses that the substrate may be glass (column 1, lines 16-27).

Regarding claim 36-37, 43, 48 and 51, Depauw discloses that the metal film may be thermally oxidized (column 5, lines 21-35).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 21-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 4,522,844 to Khanna et al (hereinafter referred to as Khanna) in view of US Patent No. 5,110,662 to Depauw.

Regarding claims 21-52, Khanna discloses a coated product comprising a substrate and a film sputtered from a metal target in an atmosphere comprising inert gas and reactive gas resulting in a metal film having an amorphous structure (column 1, lines 28-52, column 2, lines 33-44, column 3, lines 31-33). Khanna does not mention depositing one or more

metal oxide films over the amorphous metal film, but Depauw discloses that it is known to deposit one or more metal oxide films (such as titanium oxide) over an amorphous metal film to form a corrosion resistant glass coated article that reflects infrared light (column 8, lines 42-57). It would have been obvious to one having ordinary skill in the art at the time the invention was made to deposit one or more metal oxide films over the amorphous metal film of Khanna, as taught by Depauw, because the coated glass article could be used to reflect infrared light.

It is the examiner's position that the coated product of Khanna in view of Depauw is identical to or only slightly different than the claimed coated product prepared by the method of the claims. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show obvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289 (Fed. Cir. 1983). Khanna in view of Depauw either anticipated or strongly suggested the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Khanna in view of Depauw.

Regarding claims 22-24, 32 and 40-44, Khanna discloses that the metal may be titanium (column 1, lines 53-63).

Regarding claims 40-44, Depauw discloses that the metal of the metal oxide films may be titanium (column 8, lines 29-57).

Regarding claims 25-26, 39 and 46, Depauw discloses that the metal sub-oxide or metallic films may be deposited in the range of 25 to 450 A (column 8, lines 29-57).

Regarding claims 27-28, 31 and 43, Khanna discloses that the reactive gas may be oxygen (column 3, lines 31-33).

Regarding claims 29-30, 33 and 43, Khanna discloses that the inert gas may be argon (column 3, lines 31-33).

Regarding claims 32, 35, 40 and 43, Khanna discloses that the substrate may be glass (column 1, lines 34-35).

Regarding claims 36-37, 43, 48 and 51, Depauw discloses that the coated product may be thermally oxidized (column 5, lines 21-35).

Response to Arguments

10. Applicant's arguments filed 12/23/2002 have been fully considered but they are not persuasive.

The applicant asserts that Depauw teaches that "just a part" of the metal sputtered in an oxide-containing atmosphere may be present in a metallic state. The examiner respectfully disagrees. Depauw teaches that "At least part of the product may be present as a sub-oxide or even in the metallic state." The phrase "at least part" is not equivalent to "just a part." The phrase "at least part" includes just a part or the whole.

The applicant asserts that Depauw does not teach a metal film with an amorphous structure. The examiner respectfully disagrees. The current applicants disclose that for a metal

film to form amorphous the "amount of oxygen is sufficient to effect the deposition of the metal in a substantially amorphous rather than crystalline state, but insufficient to effect the transition of the sputtering from the metallic mode to the oxide mode" (page 3, lines 12-15). Considering that Depauw teaches depositing a metal film in an oxygen containing atmosphere that is insufficient to effect the transition of the sputtering from the metallic mode to the oxide mode, absent a showing of otherwise, it appears that the metal film of Depauw is amorphous.

The Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977).

Conclusion

11. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T Piziali whose telephone number is (703) 306-0145. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-5665.

atp
January 29, 2003

Andrew T Piziali
Examiner
Art Unit 1775

DEBORAH JONES
SUPERVISORY PATENT EXAMINER